

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An anode of an electrochemical cell, wherein said anode comprises: an anode active layer, which anode active layer comprises:
 - (i) a first layer comprising lithium metal; and
 - (ii) a second layer of a temporary protective metal in contact with a surface of said first layer;~~wherein said temporary protective metal is capable of forming an alloy with lithium metal or is capable of diffusing into lithium metal.~~
2. (Original) The anode of claim 1, wherein said temporary protective metal is selected from the group consisting of copper, magnesium, aluminum, silver, gold, lead, cadmium, bismuth, indium, germanium, gallium, zinc, tin, and platinum.
3. (Original) The anode of claim 1, wherein the thickness of said first layer is 2 to 100 microns.
4. (Original) The anode of claim 1, wherein the thickness of said second layer is 5 to 500 nanometers.
5. (Original) The anode of claim 1, wherein the thickness of said second layer is 20 to 200 nanometers.
6. (Original) The anode of claim 1, wherein said anode further comprises a substrate, wherein said substrate is in contact with a surface of said first layer on the side opposite to said second layer.
7. (Original) The anode of claim 6, wherein said substrate comprises a current collector.
8. (Original) The anode of claim 6, wherein said substrate is selected from the group consisting of metal foils, polymer films, metallized polymer films, electrically conductive polymer films, polymer films having an electrically conductive coating, electrically conductive polymer films having an electrically conductive metal coating, and polymer films having conductive particles dispersed therein.

9. (Original) The anode of claim 1, wherein said anode further comprises a third layer, said third layer comprising a single ion conducting layer, wherein said third layer is in contact with said second layer on the side opposite to said first layer.

10. (Original) The anode of claim 9, wherein said single ion conducting layer comprises a glass selected from the group consisting of lithium silicates, lithium borates, lithium aluminates, lithium phosphates, lithium phosphorus oxynitrides, lithium silicosulfides, lithium germanosulfides, lithium lanthanum oxides, lithium tantalum oxides, lithium niobium oxides, lithium titanium oxides, lithium borosulfides, lithium aluminosulfides, and lithium phospho sulfides, and combinations thereof.

11. (Original) The anode of claim 1, wherein said anode further comprises a third layer, said third layer comprising a polymer, and wherein said third layer is in contact with said second layer on the side opposite to said first layer.

12. (Original) The anode of claim 11, wherein said polymer is selected from the group consisting of electrically conductive polymers, ionically conductive polymers, sulfonated polymers, and hydrocarbon polymers.

13. (Original) The anode of claim 11, wherein said polymer is a crosslinked polymer.

14. (Original) The anode of claim 9, wherein said anode further comprises a fourth layer, said fourth layer comprising a polymer, and wherein said fourth layer is in contact with said third layer on the side opposite to said second layer.

15. (Original) The anode of claim 14, wherein said polymer is selected from the group consisting of electrically conductive polymers, ionically conductive polymers, sulfonated polymers, and hydrocarbon polymers.

16. (Original) The anode of claim 14, wherein said polymer is a crosslinked polymer.

17. (Withdrawn)

18. (Withdrawn)

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19. (Withdrawn)

20. (Withdrawn)

21. (Withdrawn)

22. (Withdrawn)

23. (Withdrawn)

24. (Withdrawn)

25. (Withdrawn)

26. (Withdrawn)

27. (Withdrawn)

28. (Withdrawn)

29. (Withdrawn)

30. (Withdrawn)

31. (Withdrawn)

32. (Withdrawn)

33. (Withdrawn)

34. (Original)

35. (Withdrawn)

36. (Withdrawn)

37. (Currently amended) An electrochemical cell comprising:
- (a) a cathode comprising a cathode active material;
 - (b) an anode; and
 - (c) a non-aqueous electrolyte interposed between said anode and said cathode;
wherein said anode comprises an anode active layer, which anode active layer comprises:
 - (i) a first layer comprising lithium metal; and
 - (ii) a second layer of a temporary protective metal in contact with a surface of said first layer;
~~wherein said temporary protective metal is capable of forming an alloy with lithium metal or is capable of diffusing into lithium metal.~~
38. (Original) The cell of claim 37, wherein said temporary protective metal is selected from the group consisting of copper, magnesium, aluminum, silver, gold, lead, cadmium, bismuth, indium, germanium, gallium, zinc, tin, and platinum.
39. (Original) The cell of claim 37, wherein said temporary protective metal is characterized by forming an alloy with, dissolving into, blending with, or diffusing into said lithium metal of said first layer during electrochemical cycling of said cell.
40. (Original) The cell of claim 37, wherein said temporary protective metal is characterized by forming an alloy with, dissolving into, blending with, or diffusing into said lithium metal of said first layer prior to electrochemical cycling of the cell.
41. (Original) The cell of claim 37, wherein the thickness of said first layer is 2 to 100 microns.
42. (Original) The cell of claim 37, wherein the thickness of said second layer is 5 to 500 nanometers.
43. (Original) The cell of claim 37, wherein said anode further comprises a substrate, wherein said substrate is in contact with a surface of said first layer on the side opposite to said second layer.

44. (Original) The cell of claim 43, wherein said substrate comprises a current collector.

45. (Original) The cell of claim 43, wherein said substrate is selected from the group consisting of metal foils, polymer films, metallized polymer films, electrically conductive polymer films, polymer films having an electrically conductive coating, electrically conductive polymer films having an electrically conductive metal coating, and polymer films having conductive particles dispersed therein.

46. (Original) The cell of claim 37, wherein said anode further comprises a third layer, said third layer comprising a single ion conducting layer, wherein said third layer is in contact with said second layer on the side opposite to said first layer.

47. (Original) The cell of claim 46 wherein said single ion conducting layer of said third layer comprises a glass selected from the group consisting of lithium silicates, lithium borates, lithium aluminates, lithium phosphates, lithium phosphorus oxynitrides, lithium silicosulfides, lithium germanosulfides, lithium lanthanum oxides, lithium tantalum oxides, lithium niobium oxides, lithium titanium oxides, lithium borosulfides, lithium aluminosulfides, and lithium phosphosulfides, and combinations thereof.

48. (Original) The cell of claim 37, wherein said anode further comprises a third layer, said third layer comprising a polymer, and wherein said third layer is in contact with said second layer on the side opposite to said first layer.

49. (Original) The cell of claim 48, wherein said polymer is selected from the group consisting of electrically conductive polymers, ionically conductive polymers, sulfonated polymers, and hydrocarbon polymers.

50. (Original) The cell of claim 48, wherein said polymer is a crosslinked polymer.

51. (Original) The cell of claim 46, wherein said anode further comprises a fourth layer, said fourth layer comprising a polymer, and wherein said fourth layer is in contact with said third layer on the side opposite to said second layer.

52. (Original) The cell of claim 51, wherein said polymer is selected from the group consisting of electrically conductive polymers, ionically conductive polymers, sulfonated polymers,

53. (Original) The cell of claim 51, wherein said polymer is a crosslinked polymer.

54. (Original) The cell of claim 37, wherein said electrolyte is selected from the group consisting of liquid electrolytes, solid polymer electrolytes and gel polymer electrolytes.

55. (Original) The cell of claim 37, wherein said electrolyte comprises a separator selected from the group consisting of polyolefin separators and microporous xerogellayer separators.

56. (Original) The cell of claim 37, wherein said cathode active material comprises one or more materials selected from the group consisting of electroactive metal chalcogenides, electroactive conductive polymers, and electroactive sulfur-containing materials, and combinations thereof

57. (Original) The cell of claim 37, wherein said cathode active material comprises elemental sulfur.

58. (Original) The cell of claim 37, wherein said cathode active material comprises an electroactive 15 sulfur-containing organic polymer, wherein said sulfur-containing organic polymer, in its oxidized state, comprises one or more polysulfide moieties, $-S_m^+$, where m is an integer equal to or greater than 3.

59. (Original) The cell of claim 37, wherein said cathode- active material comprises an electroactive 20 sulfur-containing organic polymer, wherein said sulfur-containing organic polymer, in its oxidized state, comprises one or more polysulfide moieties, $-S_m^+$, where m is an integer equal to or greater than 3.

60. (Original) The cell of claim 37, wherein said cathode active material comprises an electroactive 25 sulfur-containing organic polymer, wherein said sulfur-containing organic polymer, in its oxidized state, comprises one or more polysulfide moieties, S_m^{2+} , where m is an integer equal to or greater than 3.

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61. (Original) The cell of claim 37, wherein said cell is a secondary cell.
62. (Original) The cell of claim 37, wherein said cell is a primary cell.
63. (Withdrawn)
64. (Withdrawn)
65. (Withdrawn)
66. (Withdrawn)
67. (Withdrawn)
68. (Withdrawn)
69. (Withdrawn)
70. (Withdrawn)
71. (Withdrawn)
72. (Withdrawn)
73. (Withdrawn)
74. (Withdrawn)
75. (Withdrawn)
76. (Withdrawn)
77. (Withdrawn)
78. (Withdrawn)
79. (Withdrawn)

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80. (Withdrawn)

81. (Withdrawn)

82. (Withdrawn)

83. (Withdrawn)
